

inflated; colors similar but the transversal yellow bands larger and on the 3d and 4th segments extended into a median dorsal line; last segment short, black, shining, with a flat basal impression; appendages as long as the segment, converging, cylindrical, rounded on tip, black, hairy; part between them large, black rounded. Vulvar lamina large, broad, a little shorter than the segment, split to the basal third, pointed, tapering gradually to the tip, yellow; cavity bordered by it black, with an elevated ridge, pointed in middle.

	Male	Female
Length	34	33
Abdomen	24	20-23
Ala sup.	22½	23
Ala inf.	22	21½-22½
Pterostigma	2	—
Femur post.	5	5
Appendages	1½	1

	Male	Female
Exp. ala	47	48
Lat. cap.	6	5½
Breadth ant.	6	
“ post.	7	

HABITAT: Center, N. Y., Mr. J. A. Lintner, no. 2839, 27 May. 4♂; 2840, 21 May, 4♀. Two females (*L. vacua* Hagen, no descr.) from Saskatchewan, Lake Winnipeg, collected in 1860 by Robert Kennicott. The position of this rather eccentric, small species is near *C. ulheri*, but it is separated from that species by unusual characters. The anal angles of the hind wings of the male are nearly rounded; all triangles are without transversal veins; only one series of discoidal cells, and a very plain venation. It is very interesting that this apparently arctic species is found in eastern New York.

DESCRIPTIONS OF SOME NEW NORTH AMERICAN DOLICHOPODIDAE.

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(Concluded from p. 362.)

PELOROPEODES, n. gen.

♂. Small dull metallic green species. Palpi prominent, though not enlarged. Antennae as long as the head and thorax; first joint stout, subcylindrical, glabrous on its upper surface, with a few hairs on its under side; second joint short, rounded, subcalyculate; third joint pubescent, very long, tapering from a broad rounded base to a blunt point, on which is inserted the thick, flexible arista. Face rather broad for a male, front ample. Thoracic dorsum moderately arched, beset

with the usual stout setae; scutellum broad, short, smooth, with four setae. Abdomen with six segments, short, stout at the base but tapering very rapidly to the apex, where is attached the sessile and greatly enlarged hypopygium, consisting of a scuttle shaped box, two thirds the size of the abdomen, from the ventrad directed opening of which protude several hook-shaped chitinous appendages. Legs rather stout, hairy; tibiae equalling the femora in length; spurs of the fore tibiae short, those of the posterior pairs

of medium size; tarsi of all the feet somewhat longer than the tibiae; hind metatarsal joint without bristles. Wing somewhat longer than the body, slightly pointed; anal angle obtuse; fourth longitudinal vein slightly bent, entering the tip of the wing and scarcely inclined towards the end of the third longitudinal vein; second and third longitudinal veins straight, parallel; fifth longitudinal vein evenly curved, entering the posterior margin somewhat nearer the base than the apex of the wing; posterior cross vein perpendicular to the hind margin, distant about twice its length from the tip of the fifth longitudinal vein; sixth longitudinal vein short, distinct.

♀ of the same color as the male. Face rather broad, not attaining to the lower margin of the eyes. Antennae differing profoundly from those of the male; especially in respect of the third joint and its arista; the former being very short, semioval and flattened laterally, while the latter, inserted dorsally, and clothed with microscopic pubescence, is so long that if reflexed it would reach to the middle of the thoracic dorsum. Front ample; ocelli prominent. The rather large ovipositor, much exerted in all of my specimens, terminates in a comb-like organ with regular, short, blunt teeth.

(Generic name derived from *πέλωπος*, enormous, and *πέδις*, provided with a large penis.)

PELOROPEODES SALAX, n. sp. ♂. ♀.

Length: ♂ 2.25 mm.; ♀ 2 mm.; length of wing ♂ 2.5 mm., ♀ 2.25 mm.

Dull metallic green. Palpi black. Face and front metallic green, almost obscured by whitish dust. Antennae black; pubescence of the elongated third joint of the male, whitish; bristles of the superior orbit black, those of the inferior orbit white. Thoracic dorsum dark metallic green, but so thickly covered with yellow dust, as to be subopaque in the male, opaque in the female; this dust is thickest on the anterior half of the thorac-

ic dorsum; scutellum dusted with white with a metallic violet reflection; pleurae opaque, rather thickly covered with white dust. Cilia of the tegulae long, yellow. Metallic green ground color of the abdomen somewhat concealed by whitish dust; all the segments covered with sparse short black hairs; capsule of the hypopygium black, subopaque, with short appressed whitish pubescence on its lateral faces and a few short, irregularly placed setae in the median dorsal line; the numerous hook-like appendages pale yellow; ovipositor of the female yellowish red; teeth of its comb-shaped tip black. Fore coxae entirely yellow, beset towards their apices anteriorly with a few stout black hairs; posterior coxae with infuscated bases. Legs pale yellow, covered with rather stout black hairs, arranged in very regular rows on the tibiae; the posterior pairs have three spines on their posterior faces. Tarsi blackened from the tip of the first joint. Halteres yellow. Wings uniform grayish hyaline, somewhat pointed; base lanceolate; the portion of the fourth longitudinal vein beyond the posterior cross vein but very slightly bent, its end running parallel with that of the third longitudinal vein.

HABITAT: Milwaukee Co., Wis.

I have taken two males and three females of this species in a damp and rather dense wood where the undergrowth consisted very largely of *Boehmeria cylindrica* and *Impatiens fulva*.

CHRYSOTIMUS PUSTIO, LOEW. ♂.

A number of females of this species captured on the foliage in damp woods near Milwaukee, agree with Loew's description except in the color of the antennae. According to Loew the antennae are "entirely black," whereas in all my specimens the two basal joints are honey yellow, while the third joint is

fuscous. The tergum of the last abdominal segment is also more blackish than metallic green. These differences are probably to be attributed to local variation. I subjoin a description of the male, which seems to have been unknown to Loew and which differs from the female in much the same manner as the male of the European *Chrysotimus molliculus*, Fallen, differs from its female.

Length: 1.5-1.75 mm.; length of wing 2.5 mm.

Bright golden green. Palpi blackish. Antennae with their two basal joints honey yellow; third joint fuscous, covered with distinct pale hairs. Cilia of the inferior orbit white; hairs and setae covering all other portions of the body honey yellow. The vivid metallic green of the thoracic dorsum and pleurae dimmed somewhat by a layer of whitish dust. Abdomen bright metallic green (venter yellowish?) of a shade differing from that of the thorax in being somewhat less golden and less subdued; hypopygium large and conspicuous; its outer portions brown, its inner appendages yellow. Legs honey yellow, the last tarsal joint on all the feet fuscous or black. Halteres yellow. Wings grayish hyaline, suffused with yellow, especially at their bases; veins honey yellow.

The six males before me were taken in company with the females of Loew's *C. pusio*; hence I believe there can be no doubt about their identity, especially since the relation that the sexes bear to each other is the same as that observed in the case of *C. molliculus*. My specimens have collapsed in drying so that I am unable to decide whether the venter is yellow, as in the European species.

APHANTOTIMUS, n. gen.

♂. ♀. Minute metallic green species, with rather thin integument, collapsing when dry; setae covering the body yellow; sexes alike in coloring. Palpi of moderate size. Antennae alike in both sexes; first joint short, smooth; second short and broader, provided with the usual hairs; third joint small, narrower than the second, spheroidal, with rather long, apically inserted and microscopically pubescent arista. Face rather broad in both sexes, narrowed below, not reaching to the lower corners of the eyes. Head situated rather deep on the thorax to which it seems to be closely applied. Thorax resembling in its shape the thorax of *Chrysotimus*; in the prescutellar region there is an extensive though shallow indentation, the exact shape of which my dried and collapsed specimens do not enable me to determine. Abdomen laterally compressed, in the male of six segments, tapering rapidly; hypopygium very large, pedunculate, distinctly flexed under the venter, capsule hood-shaped, with exerted appendages; a pair of these, apparently homologous with the lamellae of the hypopygium of *Dolichopus* and *Gymnopternus*, are disk-shaped and fringed with cilia; ovipositor large, usually exerted, resembling that of *Chrysotimus*. Legs rather smooth, with short and appressed spines; tibial spurs feebly developed; in the spinulation of the legs little or no sexual differences. Wings thin, hyaline, rather large; costa rather prominently arcuate; anal angle not very prominently projecting. Neuration resembling that of *Chrysotimus*; posterior cross vein more than twice its length distant from the border of the wing; fourth longitudinal vein gently bent beyond the posterior cross vein, and ending at or a little in front of the tip of the wing. With this vein the third longitudinal vein runs parallel and is in one species nearer to it than to the second longitudinal vein; second and third longitudinal veins presenting the same gentle curvature as the fourth.

(Generic name derived from ἀφαντος, forgotten, and τιμή, honor.)

The species of *Aphantotimus* resemble the *chrysotimi* in having yellow hairs and setae; in the prescutellar indentation, in the neuration of the wings and in the apical insertion of the antennal arista. The females, however, resemble the males in coloring, and do not have the abdomen largely yellow. The hypopygium of *Aphantotimus* is disengaged and very large, thus resembling that of the higher genera like *Dolichopus* and *Gymnopternus*; while the hypopygium in *Chrysotimus* is small and partly embedded. There are also differences in the size and shape of the third antennal joint; though this character is not of generic value.

The two minute species here described, differ considerably in the structure of the hypopygium, but to just what extent I have not ascertained, as this organ must be examined in recently killed specimens. Their close resemblance in other respects. e. g. in the structure of the antennae, neuration of the wings, shape of the body and covering of yellow hairs, leads me to unite them in the same genus.

APHANTOTIMUS WILLISTONI, n. sp. ♂. ♀.

Length 1.5-1.75 mm.; length of wing 1.5 mm.

Palpi pale yellow. Face metallic green, smooth; covered with a thin layer of yellowish dust, composed of minute scales that are clearly discernible, and not closely aggregated. Antennae entirely black, inclining to piceous or brown when viewed from their apices; third joint somewhat conical at the insertion of the arista and covered with

scarcely perceptible pubescence. Front rather broad, blackish green, covered with the same dust as the face; frontal setae and those of the thorax and abdomen pale yellow; cilia of the inferior orbit yellow. Thoracic dorsum and scutellum golden green, overlaid with yellow dust, consisting of minute scales; pleurae bright golden green, less dim than the thoracic dorsum, growing black in the region of the tegulae. Cilia of the tegulae yellow. Abdomen bright metallic green, with a more violet than golden reflection; covered with short and stiff yellow hairs; in the female the exerted ovipositer is orange yellow; in the male the large hood-shaped hypopygial capsule is shining black, changing to metallic green in some lights; appendages pale yellow; the two lamellae rounded, fringed with yellow cilia; a long and exposed blade-shaped organ (the penis?) extends from the base to the tip of the hypopygium on the ventral side. Legs pale yellow; tips of the tarsi scarcely darker, covered with short brown hairs, which turn to yellow in some lights. In the male the fore coxae are fuscous anteriorly and basally; the posterior coxae are fuscous with yellow tips; in the female the coxae are largely pale yellow, there being only a large fuscous spot at their bases. Halteres large, yellowish white. Wings brownish hyaline with brownish veins; the third and fourth longitudinal veins parallel, and more approximated to each other than the third longitudinal vein is to the second.

HABITAT: Milwaukee Co., Wis.

The single male and three females in my collection were taken on the foliage in a swampy wood in company with hundreds of *Dolichopods* belonging to the genera *Dolichopus*, *Pelastoneurus*, *Symphycnus*, *Psilopus* and *Chrysotus*.

APHANTOTIMUS FRATERCULUS, n. sp. ♂. ♀.

Length 1-1.5 mm.; length of wing 1.25 mm.

EXPLANATION OF PLATE I.

Epitheca yamaskanensis Provancher.

- Fig. 1. ♂ Anal appendages, from above.
Fig. 2. ♂ Anal appendages, side view.
Fig. 3. ♀ Anal appendages, from above.
Fig. 4. ♀ Anal appendages, side view.
Fig. 5. ♂ Genitals in the second segment.
Fig. 6. ♀ Vulva, from below.

Epitheca obsoleta Say. (*polysticta* Burm.)

- Fig. 7. ♂ Anal appendages, from above. (Burm.)
Fig. 8. ♂ Anal appendages, side view. (Burm.)
Fig. 9. ♀ Vulva, from below. (Say.)

Cordulia lintneri Hagen.

- Fig. 10. ♂ Between anal appendages, from above.
Fig. 11. ♂ Anal appendages, from above.
Fig. 12. ♂ Anal appendages, side view.
Fig. 13. ♂ Superior anal appendages, from above.
Fig. 14. ♀ Anal appendages, from above.
Fig. 15. ♀ Vulva, from above.
Fig. 15. — Head, from above.
Fig. 17. ♂ Base of wing.

All the figures are drawn from the types.



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